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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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Jochen Wurtz

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EXAMINER

PRYOR, ALTON NATHANIEL

ART UNIT

PAPER NUMBER

1616

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DELIVERY MODE

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 09/841,820	Applicant(s) WURTZ ET AL.	
	Examiner ALTON N. PRYOR	Art Unit 1616	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 18 March 2010.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 16,21,23,25 and 28-33 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 16,21,23,25,28-33 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Applicant's arguments filed 3/18/10 have been fully considered but they are not persuasive.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 16,21,23,25,28-33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pappas-Fader et al (USPN 5736486; 4/7/98) and JP 10-330202; 1998 on record. Pappas-Fader teaches a herbicidal mixture comprising anilofos with propanil or one or more compounds including chlorsulfuron (ALS inhibitor) sulfometuron-methyl (ALS inhibitor) and / or hexazinone. See abstract, column 1 line 36 – column 4 line 41. Pappas-Fader teaches that the mixture can be formulated as solution, emulsifiable concentrate, suspension, etc. See column 10 lines 24-44. If the mixture is formulated as a solution, the ALS inhibitor(s) would inherently be dissolved since solution means ingredients therein are totally miscible. Note that Pappas-Fader suggests the mixture comprising actives other than sulfonylureas such as anilofos and propanil as well as sulfonylurea actives such as chlorsulfuron, sulfometuron-methyl. Pappas-Fader teaches that surfactants such as dialkyl sulfosuccinate and organic solvents such as methanol, cyclohexanol, or decanol can be added to the mixture. See column 11 lines 9-29. Pappas-Fader teaches a method of applying the mixture to vegetation in order to control weed growth. See abstract, column 1 lines 39-55. Pappas-Fader does not a) exemplify a solution specifically

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comprising one or more sulfonylureas, actives other than sulfonylureas, dialkylsulfosuccinate, and organic solvents such as methanol, b) teach the instant dialkylsulfosuccinates and c) teach a composition specifically comprising iodosulfuron-methyl and sodium di-(2-ethylhexyl)sulfosuccinate. It would have been obvious to one having ordinary skill in the art to make a solution comprising one or more sulfonylureas, actives other than sulfonylureas, dialkylsulfosuccinate, and organic solvents such as methanol. One would have been motivated to do this in order to develop an invention that would have been effective in controlling weeds in plants. Additional motivation to make the invention comes from the fact that the reference suggests the mixture for controlling weed growth in plants. With respect to the dialkylsulfosuccinate, JP '202 teaches a herbicidal composition comprising dioctyl sulfosuccinate. See abstract, claims 1 and 6. Note, sodium di-(2-ethylhexyl)sulfosuccinate is an isomer of sodium di-(2-octyl)sulfosuccinate and it is obvious to replace one isomer for another. It would have also been obvious to one having ordinary skill in the art to use dioctyl sulfosuccinate or sodium di-(2-ethylhexyl)sulfosuccinate in the instant invention. One would have been motivated to do this since both references have the same utility, i.e., both references teach the control of weeds in plants using herbicides. Since Pappas-Fader broadly teaches the use of dialkylsulfosuccinates, the employment of the sulfosuccinates in claims 16 and 29 would have been obvious. This is true because dialkylsulfosuccinates have a common core structure, which make them functionally equivalent. This common core is present in all sulfosuccinates and is responsible for their function; therefore, it would have been obvious to employ the sulfosuccinates of claims 16 and 29. The amounts of dialkylsulfosuccinate and ALS inhibitor would have been determined through routine experimentation. It is very possible that the

optimum amounts would have fallen within the instant % ranges since the instant ranges are so broad. One would have been motivated to determine the optimum amounts in order to make an invention that would have been effective in killing weeds without preventing healthy plant / crop growth. In addition it would have been obvious to replace the sulfonylureas taught by Pappas-Fader with the iodosulfuron. This is true because sulfonylureas have a common core structure, which make them functionally equivalent. This common core is present in all sulfonylureas and is responsible for their function; therefore, it would have been obvious to employ the iodosulfuron sulfonylurea taught in claim 29.

Response to Argument

The applicants argue that Pappas-Faden and Kazutomi are so different from applicants' claimed invention, i.e. neither reference teaches iodosulfuron as the active. Applicants further argue that no counter evidence against their elected combination of iodosulfuron and sodium-di-(2-ethylhexyl) sulfosuccinate showing unexpected activity has been presented. The Examiner reiterates that Pappas-Fader teaches a herbicidal mixture comprising anilofos with propanil or one or more compounds including chlorsulfuron (ALS inhibitor) sulfometuron-methyl (ALS inhibitor) and / or hexazinone. See abstract, column 1 line 36 – column 4 line 41. Note, Pappas-Fader teaches that surfactants such as dialkyl sulfosuccinate can be added to the mixture. See column 11 lines 9-29. The Examiner reiterates that it would have been obvious to replace the sulfonylureas taught by Pappas-Fader with iodosulfuron. This is true because sulfonylureas have a common core structure, which make them functionally equivalent. This common core is present in all sulfonylureas and is responsible for their function; therefore, it would have been obvious to employ the iodosulfuron sulfonylurea taught in claim 29. With respect to the

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dialkylsulfosuccinate, JP '202 teaches a herbicidal composition comprising dioctyl sulfosuccinate. See abstract, claims 1 and 6. Note, sodium di-(2-ethylhexyl)sulfosuccinate is an isomer of sodium di-(2-octyl)sulfosuccinate and it is obvious to replace one isomer for another. It would have also been obvious to one having ordinary skill in the art to use dioctyl sulfosuccinate or sodium di-(2-ethylhexyl)sulfosuccinate in the instant invention. One would have been motivated to do this since both references have the same utility, i.e., both references teach the control of weeds in plants using herbicides. Since Pappas-Fader broadly teaches the use of dialkylsulfosuccinates, the employment of the sulfosuccinates in claims 16 and 29 would have been obvious. This is true because dialkylsulfosuccinates have a common core structure, which make them functionally equivalent. This common core is present in all sulfosuccinates and is responsible for their function; therefore, it would have been obvious to employ the sulfosuccinates of claims 16 and 29. Therefore, the elected combination of iodosulfuron and sodium di-(2-ethylhexyl)sulfosuccinate is made obvious by the references of record. Below the Examiner explains why the results provided by the Applicant for the combination of iodosulfuron and sodium di-(2-ethylhexyl)sulfosuccinate do not overcome the rejection of record. The applicants argue a) ALS is not dissolved in Pappas-Fader or Yasi and no evidence is provided to show that this is an inherent property of Pappas-Fader or Yasi; "; Pappen-Faden is alleged to be drawn to solutions, but no evidence or credible explanation is provided for this assertion. The Applicant directs the Examiner's attention to column 10 lines 24-44 of Pappas-Fader where it recites, "Useful formulations include liquids such as solutions ..." b) The assertion of inherency is based on a misinterpretation of the term "solution"; the McGraw-Hill Dictionary defines a solution is a single, homogeneous liquid, solid or gas phrase that is a

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mixture in which the components (liquid, gas, solid, or combinations thereof) are uniformly distributed throughout the mixture. "The fact that a certain result or characteristic may occur or be present in the prior art is not sufficient to establish the inherency of that result or characteristic

c) Yasi does not remedy deficiencies with the Pappas-Fader reference as it is directed to an aqueous suspension and therefore does not teach the herbicide compound in dissolved form, d) Pappen-Fader does not make use or even mention iodosulfuron, e) USPN 4936900 teach that chemically stabilized aqueous sulfonylureas or agriculturally suitable sulfonylurea salt dispersions (not solutions) and USPN 4599412 teach solution formulations with improved chemical stability ('412 requires that molecular sieves come in contact with formulation to achieve solution formulation) The table on page 38 provides unexpected stability data for (iodosulfuron). The table on page 38 also showed unexpected stability for foramsulfuron, mesosulfuron and combinations of iodosulfuron with fenoxaprop-ethyl and mefenpyr-ethyl.

Based on these results, sulfonylureas as a class are nonobvious in instant invention. The Applicant argues, "they have provided evidence of unexpected results for their combination of elements which constitute the claimed liquid formulation which has not been refuted by the Examiner. As the unexpected results appear to be clear cut to one of ordinary skill in the art, the applicants can only surmise that the Examiner was having difficulty reading the Tables within the specification. These tables have been reformulated in the chart below (see next page) in order to address only the elected combination of sulfosuccinates and ALS inhibitors. The applicants have added a column entitled "Loss in %" and Stable formulation?" to further illustrate the unexpected results." Applicant argues that the data provided in the Table a large prevention of loss of iodosulfuron due to the presence of a sulfosuccinate.

. The Applicant directs the Examiner's attention to column 10 lines 24-44 of Pappas-Fader where it recites, "Useful formulations include liquids such as solutions ...". Thus, Applicants admit to Pappas-Fader disclosure of a solution. While Pappas-Fader also teaches the composition in the form of an aqueous suspension, the aqueous suspension is not the form of the composition claimed. The Examiner maintains that Pappas-Fader teaches that ALS containing compositions can exist as solutions. The fact that a solution is a single, homogeneous liquid, solid or gas phase according to the McGraw-Hill Dictionary indicates that Pappas-Fader's composition existing as a solution would have the same characteristics as any other liquid solution, i.e., exist as a single, homogeneous liquid phase. Because Pappas-Fader can exist as a single, homogeneous liquid phase means that the composition contains chemicals which are totally miscible in one another. Therefore the ALS inhibitor in the solution taught by Pappas-Fader would be dissolved therein. The fact that Pappas teaches a solution means that chemicals are in dissolution form. The Examiner maintains that solution would indicate dissolution, and therefore no evidence is needed to prove this statement since a solution is homogenous which means/indicates dissolution regardless of whether the solution is in a liquid, solid or gas state. Yasi was not employed to remedy the dissolution of ALS in the composition of Pappas-Fader, but rather Yasi was employed to show that alkylsulfosuccinate compounds such as octyl sulfosuccinate are employed in herbicide composition. The alkyl sulfosuccinate have not been shown to enhance the stability of sulfonylurea compounds. While it is true that Pappas-Faden does not teach or employ iodosulfuron, Pappas-Fader's does employ many of the sulfonylureas disclosed as being suitable for the instant invention. Both Pappas-Fader's and instant invention employ chlorsulfuron, chlorimuron-ethyl, metsulfuron-methyl, sulfometuron-methyl, tribenuron-

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methyl, bensulfuron-methyl and triflurosulfuron as actives. Note, these compounds like iodosulfuron are sulfonylureas. Therefore, it would have been obvious to replace any one of the sulfonylureas used in Pappas-Fader's with iodosulfuron. One would have been motivated to do this because sulfonylureas are structurally similar and therefore would have been expected to yield similar results when employed in the same application or process.

Instant claims employ comprising language making them open to the inclusion of molecular sieves to aid in the reduction of water in the composition. Note, USPN '900 column 10 lines 34-35 disclose that solution means dissolving, i.e. the citation states "allowed to dissolved (28.5% of solution)". Note, USPN '412 at lines 49-58 distinguishes solution from dispersion stating, "the need for "expensive grinding or drying equipment is obviated when preparing solution formulations."

The Examiner reiterates to the Applicant that the Examiner is not confused about the results presented in the application. The Examiner maintains that all of the examples in Table 1 on page 38 employ an alkyl sulfosuccinate plus sulfonylurea. None of the examples in Table 1 on page 38 are without alkyl sulfosuccinate. Therefore, Table 1 on page 38 does not make it definite that alkyl sulfosuccinates enhance the stability of sulfonylureas. The Examiner also understands Applicant intention to use Table 2 compositions/results as comparative Examples to Table 1 compositions/results. However, the Examiner does not find the comparative results of Table 2 useful to compare to the inventive results in Table 1 because the concentration of active(s) appear to differ greatly. The question is: Would the concentration of actives (iodosulfuron, fenoxaprop-ethyl and mefenpyr-diethyl) impact the stability of the iodosulfuron (Compare the actives and their concentrations of VIII and IX in Table 1 to the actives and their

concentrations of 1 and 2 in Table 2). In addition composition III in Table 1 has no direct comparison in Table 2 since III contains only iodosulfuron as the active whereas 1 and 2 in Table 2 uses three actives (iodosulfuron, fenoxaprop-ethyl and mefenpyr-diethyl). With these actives/concentration differences between the inventive composition and the comparative compositions it is difficult to conclude, without a doubt, that Applicant's use of instant sulfosuccinates, e.g. sodium di-(2-ethylhexyl)sulfosuccinate), stabilizes iodosulfuron. Until the Applicant is able to favorably convince the Examiner that this is so, the Examiner maintains that the potentially unexpected results would not be commensurate in scope with the claims. Note, Applicant claims recite ALS inhibitors (sulfonylureas) broadly whereas examples only use foramsulfuron-N-butyl, mesosulfuron-Na and iodosulfuron. Applicant's claims also recite sulfosuccinates with broad formula I when only two (Triton GR 7 ME and Na-DOS) have been employed in the Examples. For these reason the results do not appear clear cut.

The Examiner reiterates that the elected invention comprising iodosulfuron and sodium di-(2-ethylhexyl)sulfosuccinate is not allowable (see rejection and arguments above).

Election Status

The elected invention comprising iodosulfuron and sodium di-(2-ethylhexyl)sulfosuccinate is not allowable.

Telephonic Inquiry

Any inquiry concerning this communication or earlier communications from the examiner should be directed to ALTON N. PRYOR whose telephone number is (571)272-0621. The examiner can normally be reached on 8:00 a.m. - 4:30 p.m..

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Johann Richter can be reached on 571-272-0646. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Alton N. Pryor/
Primary Examiner, Art Unit 1616